



Power market integration and challenges in Europe

Strommarkttreffen
Berlin, 2 June 2017

Pietro Rabassi
Director Central European Markets, Nord Pool

Agenda

What is Nord Pool?

What is Nord Pool's legacy and market integration history?

What are the recent power market needs (challenges) in Europe?

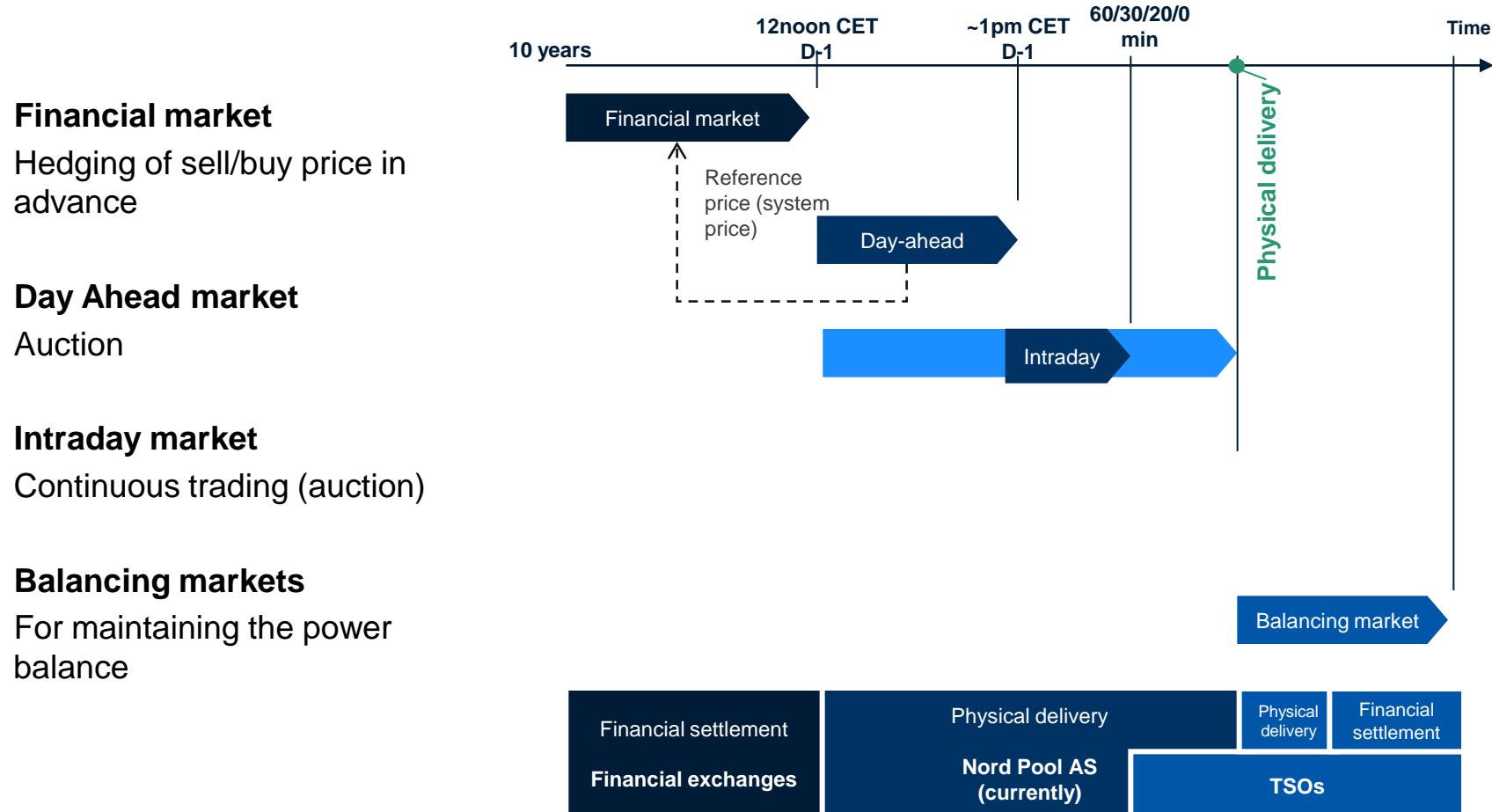
What is Nord Pool?

**POWER MARKET
(EXCHANGE)**

TECH COMPANY

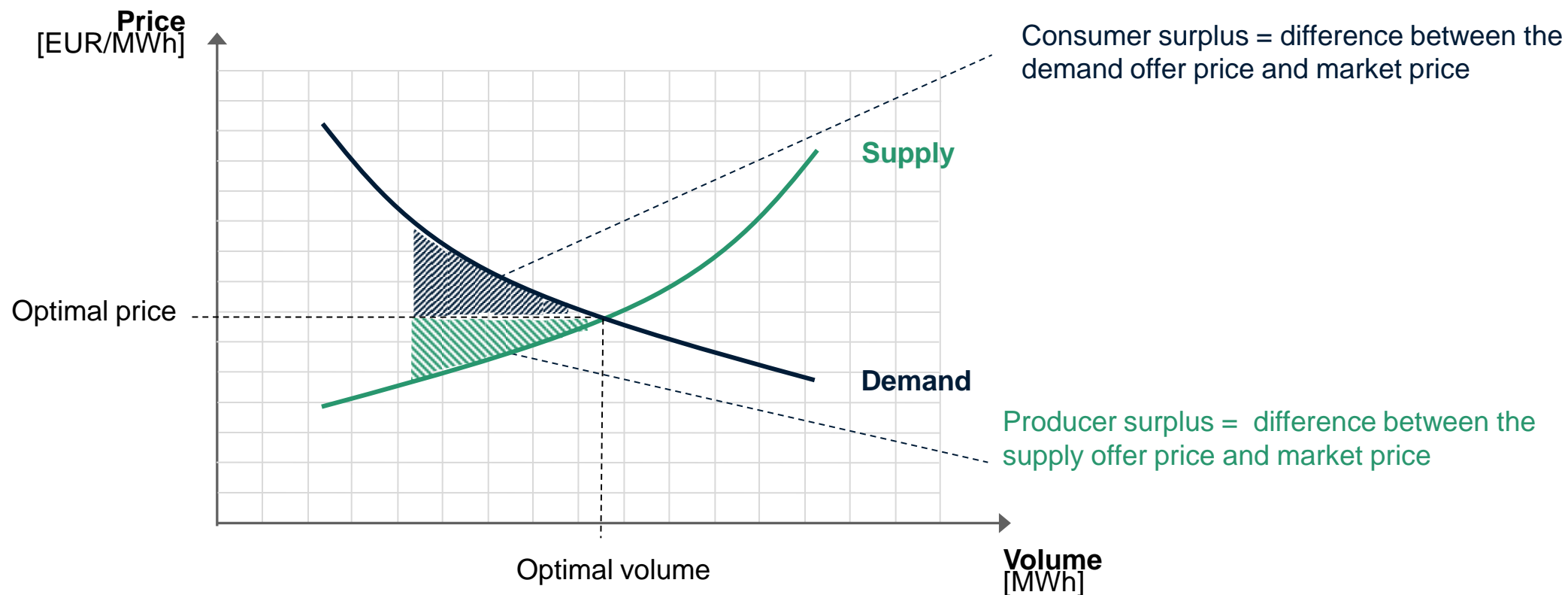
What is Nord Pool's legacy and market integration history?

Nord Pool's business is now only power spot markets; we used to cover financial power markets, too

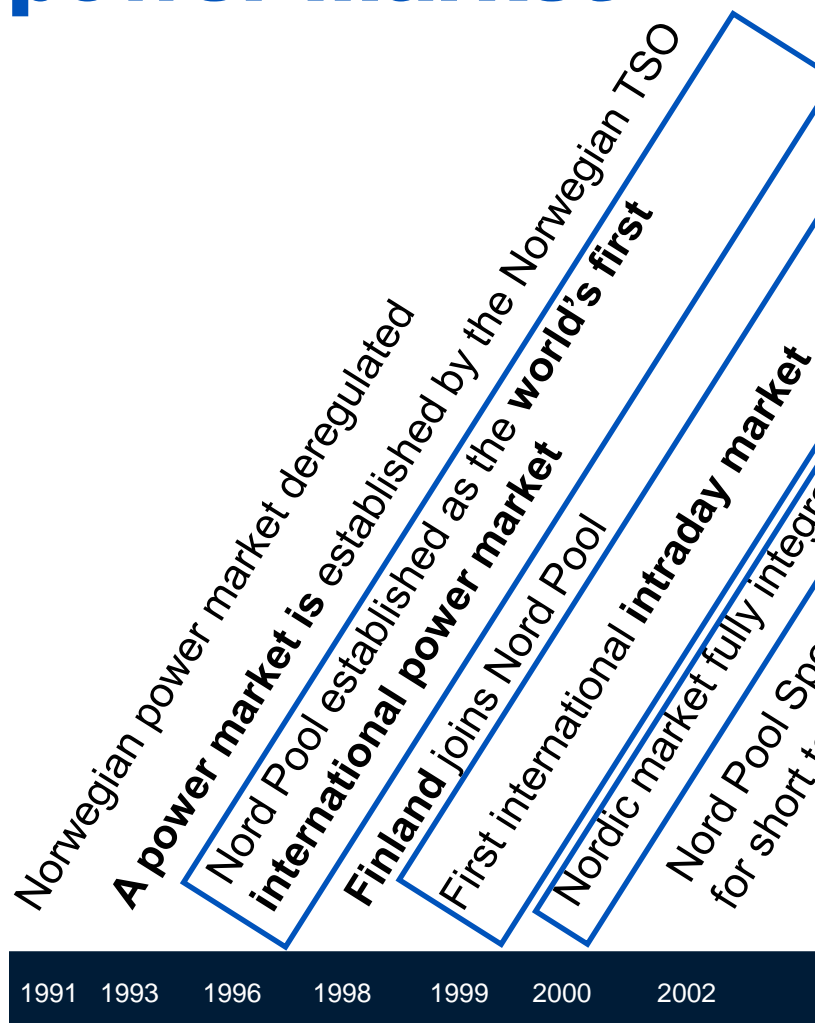


How the auction works: the auction algorithm maximizes social welfare

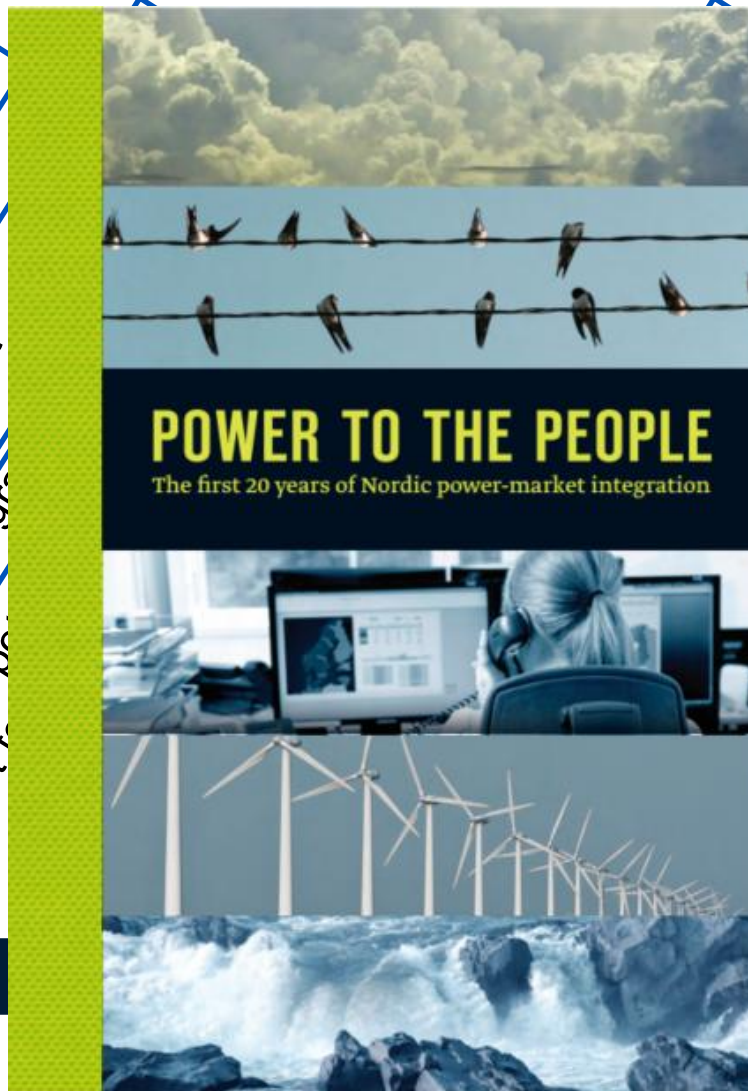
Social welfare = consumer surplus + supplier surplus + congestion rent;
while respecting all the given grid constraints



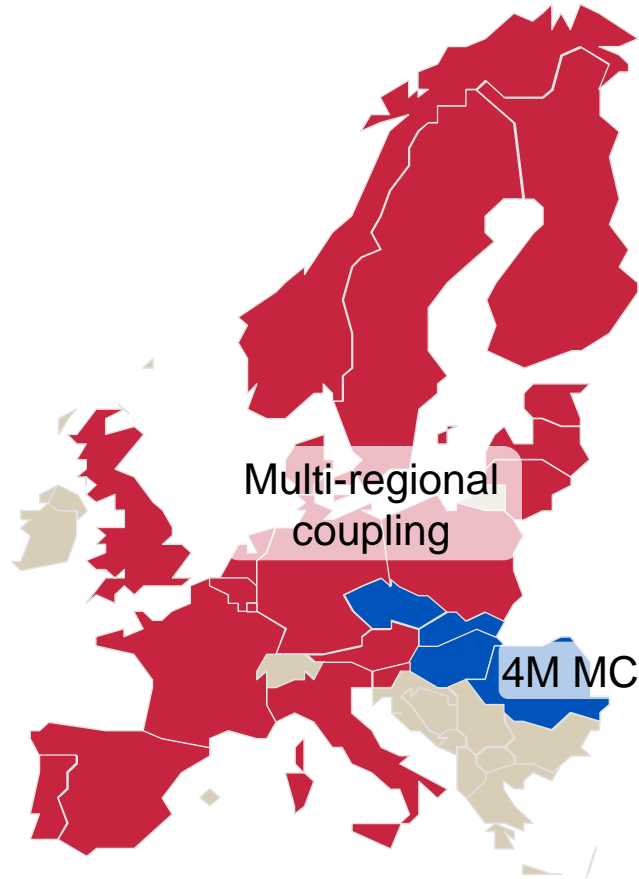
Our strong legacy as the world's first international power market



**NORD
POOL**



Main steps towards an integrated European power market: MRC and XBID



- | | |
|-------------|---|
| 1996 | Nord Pool: world's first international power market with common Nordic system price |
| 2006 | Day-ahead market coupling of France, Belgium and the Netherlands |
| 2007 | MIBEL couples Spain and Portugal |
| 2010 | Coupling of Central Western Europe (CWE), incl. coupling with the Nordics, Poland and the Baltics |
| 2014 | Coupling of CWE, GB, the Nordics and Baltics and MIBEL. 4M market coupling integrates CEE from Hungary to Romania |
| 2015 | Italian Borders Market Coupling launched, multi-regional coupling covering 19 countries |
| 2017 (est.) | XBID project: integration of continuous IDMs |

We are expanding to 7 new markets

Where?

Nominated Electricity Market Operator (NEMO) in 15 European countries.

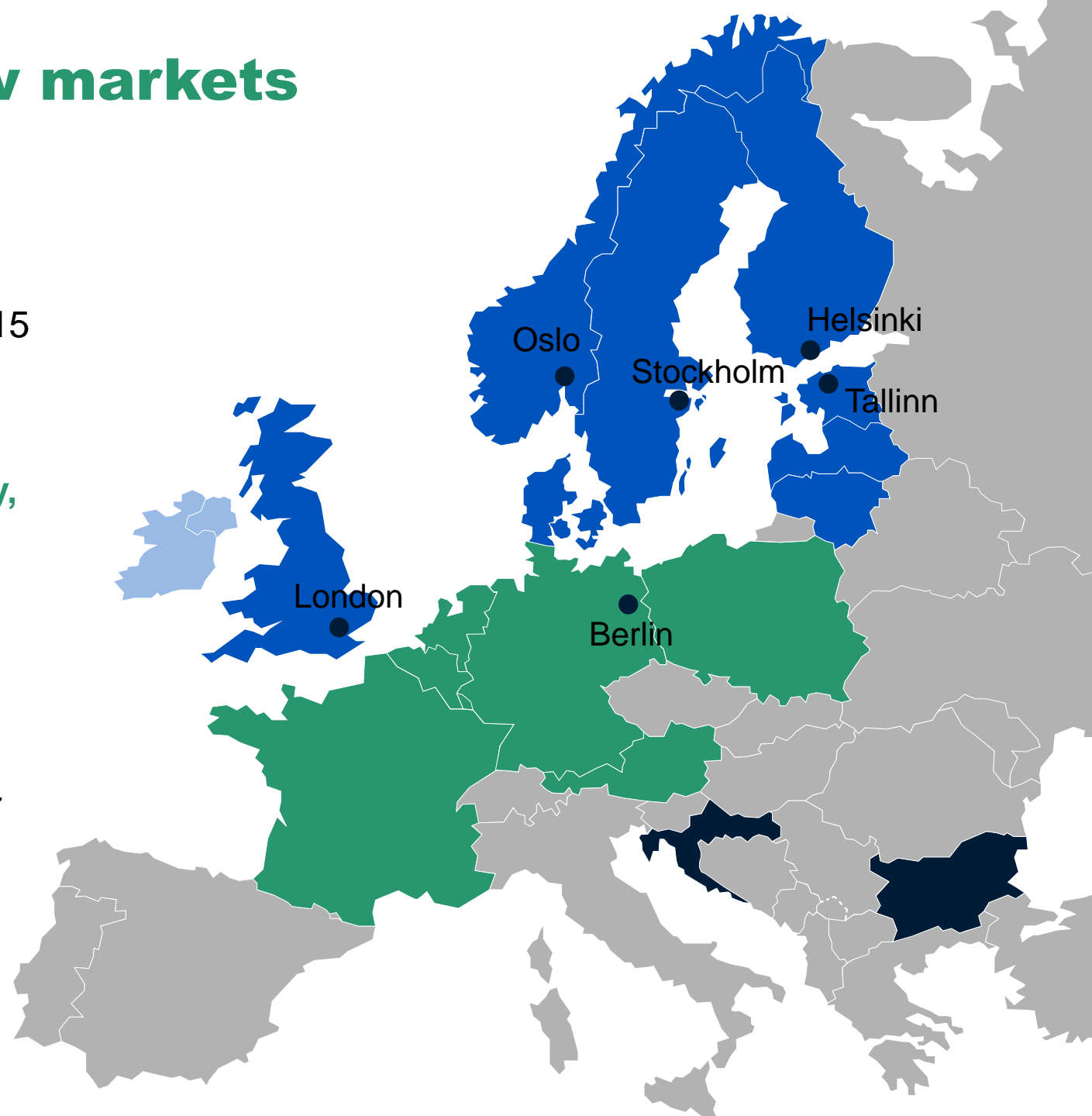
We are rapidly **expanding** to **7 markets** in Central Europe (CE): **Austria, Belgium, France, Germany, Luxembourg, the Netherlands, Poland**

What?

When?

From our side we are going to be ready in Q4 2017

**NORD
POOL**



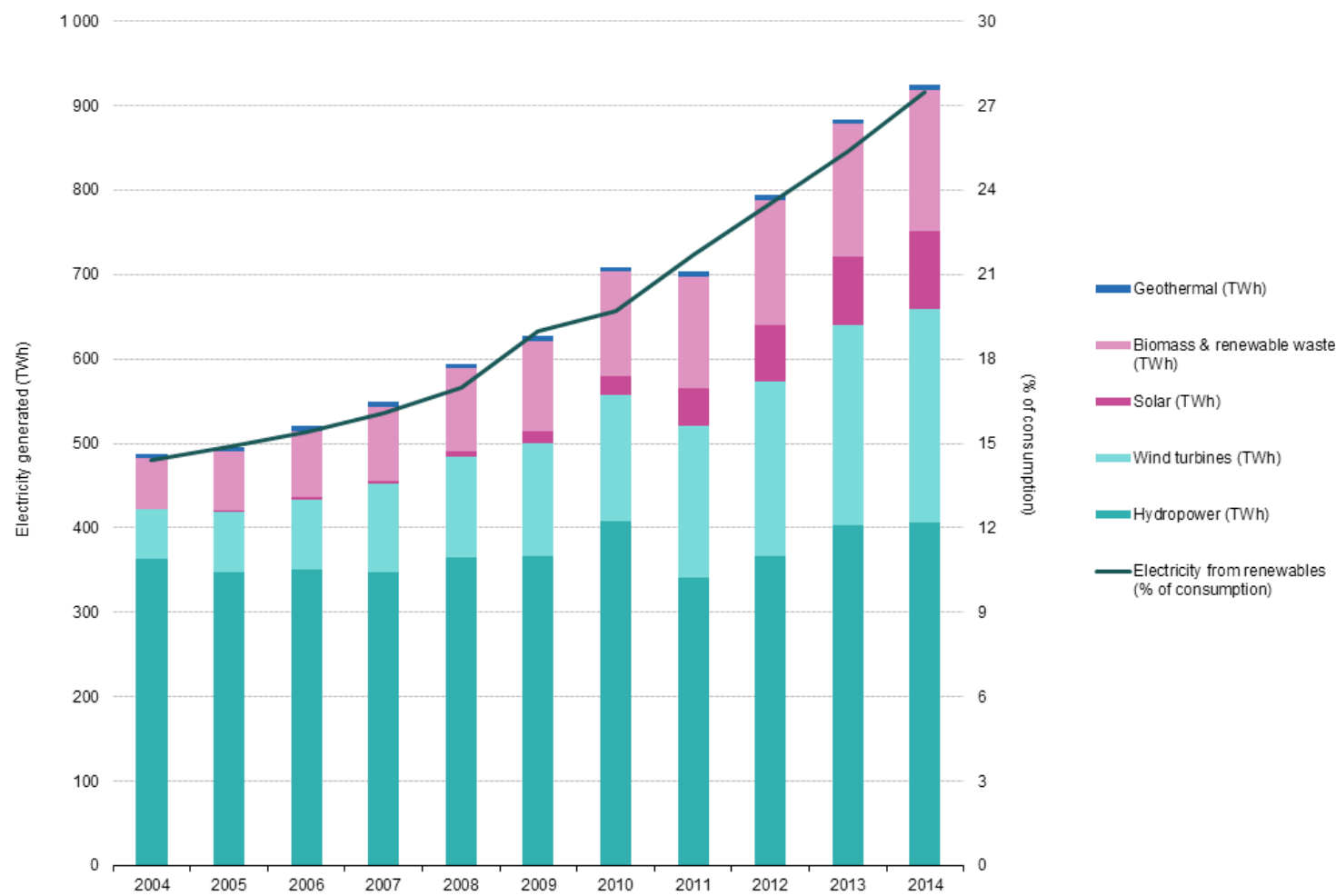
Thanks to our legacy we consult worldwide

**NORD
POOL**



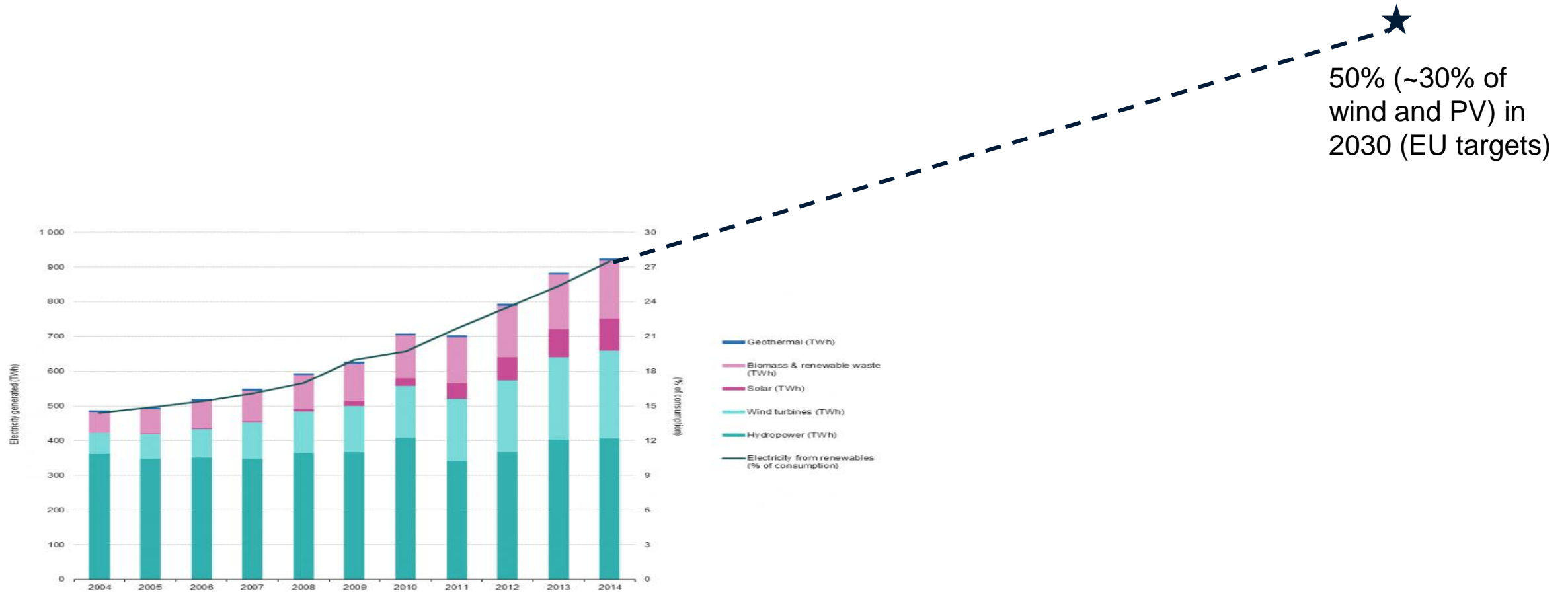
What are the recent power market needs in Europe?

RES (especially iRES) have been increasing their share across Europe (EU-28)...



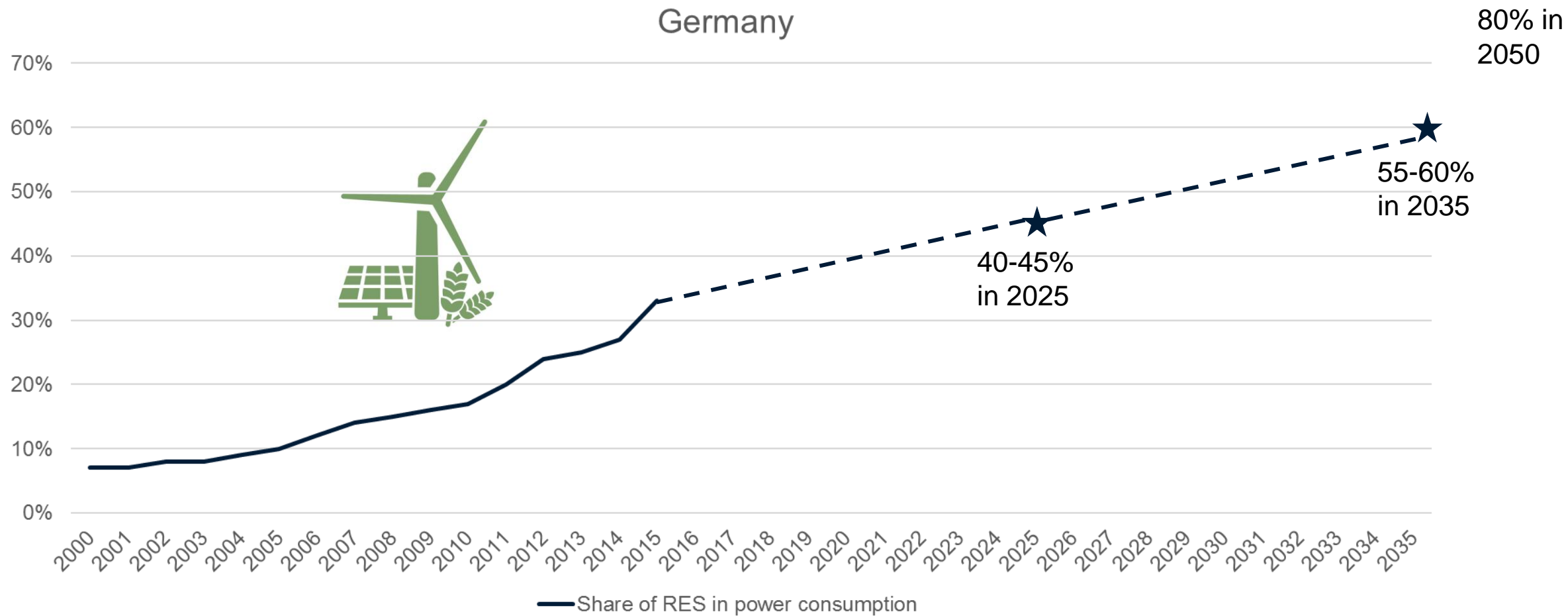
Source: Eurostat (online data codes: nrg_105a and tsdcc330)

...and will in the next years



Source: Eurostat (online data codes: nrg_105a and tsdcc330)

A similar pattern applies to Germany—one main driver



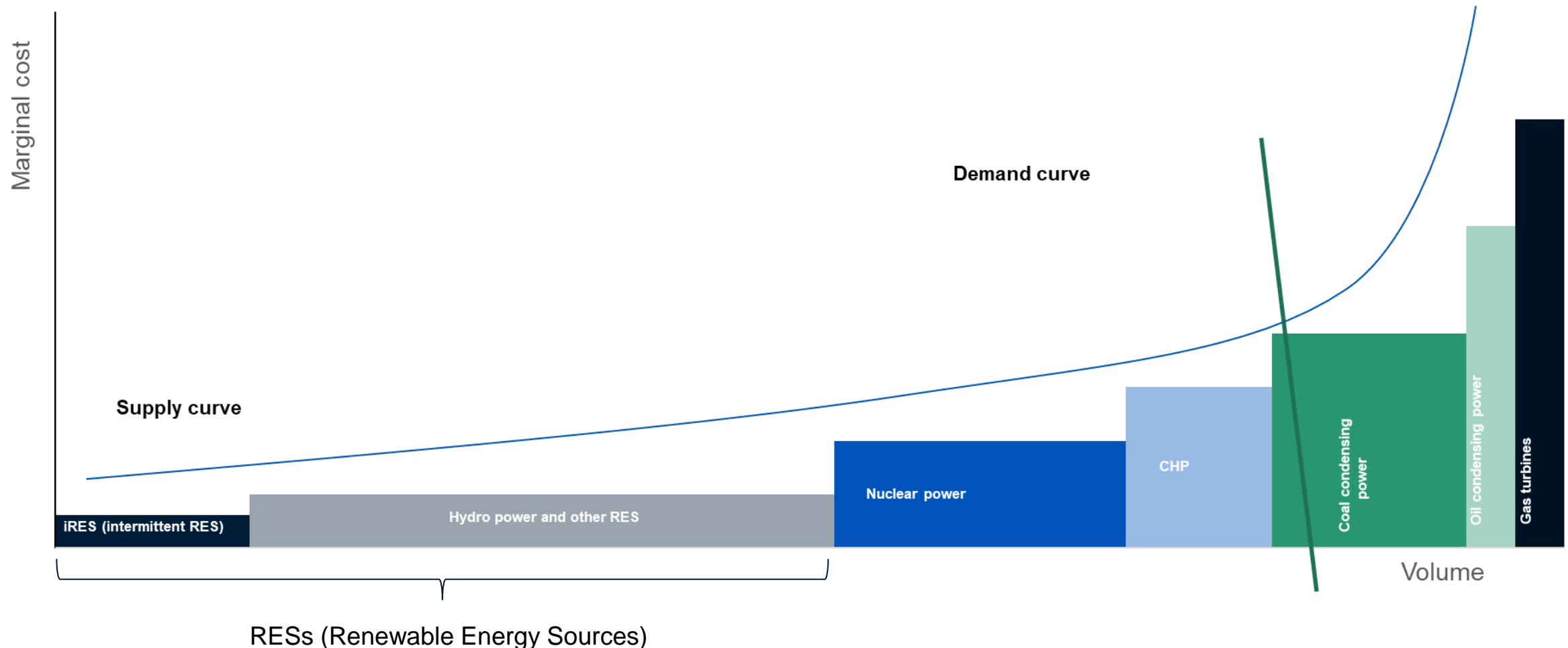
**1: Trading
closer to
delivery...**

12

A conceptual image representing algorithmic trading. A sleek, dark grey robotic hand with visible joints is positioned over a laptop keyboard. The laptop screen in the background displays a complex financial candlestick chart with green and red bars, overlaid with blue and red trend lines. The entire scene is bathed in a cool blue light, and faint binary code (0s and 1s) is visible in the upper right corner.

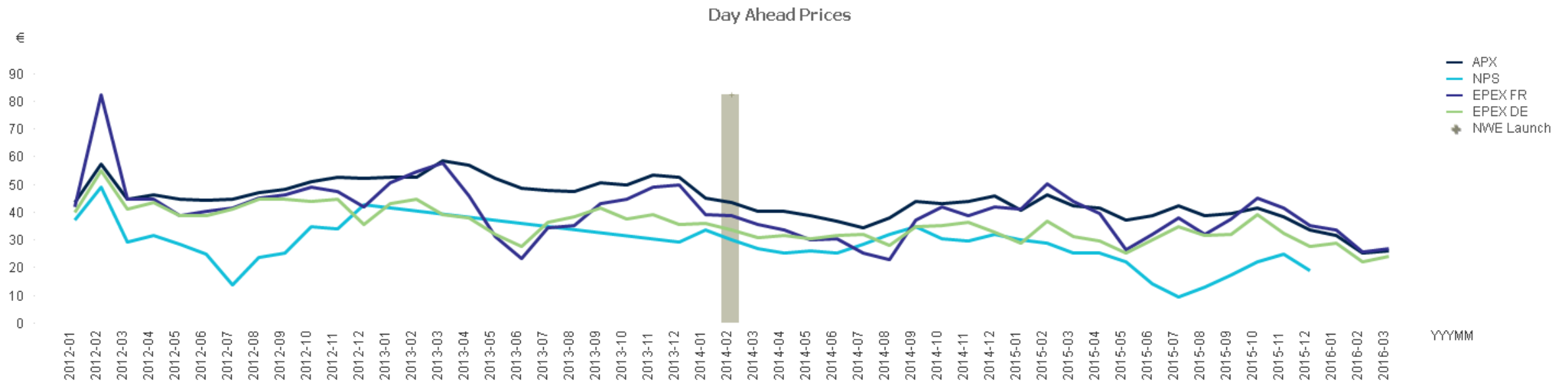
... and API trading

The merit order concept for the auction: what counts in determining the clearing price is the marginal cost of the last plant used
RESs have the lowest marginal cost -> the more RES, the lower prices



The introduction of RES in the European markets drove down wholesale power prices in the DA auction

In the continuous markets we have the same trend



2: Cost cutting



The next generation trading in Europe: How can power traders combine the two needs?

1. algorithmic trading?
2. comparative advantage?
3. with cost-cutting?

These two further needs are key to enable an integrated and competitive market in Europe

3. Shared order books and liquidity across all markets

4. Market design that foresees equal playing field, everywhere, including CE

**We have an office
in Berlin: come and
talk to us any time!**

**NORD
POOL**



DANKE!

Dziękuję!
THANK YOU!
TAKK!
MERCI!
GRAZIE!
DANK JE!

ce@nordpoolgroup.com



Questions?



Pietro Rabassi

Director Central European Markets

M: ce@nordpoolgroup.com
+49 3221 4219614

Pietro is Director for Central European Markets and responsible for expanding Nord Pool's business across Europe and creating greater value for its customers.

He has a professional background in international business, and the public and academic sectors, particularly relevant to the energy and power trading environment and to his role at Nord Pool.

Pietro has studied engineering at Politecnico di Milano in Italy and at Ecole Polytechnique in France and pursued postgraduate business and government studies at Harvard University in the US.

He has lived in 7 countries so far. You may address him in Norwegian in the longer run, but for now it is easier to choose among English, German, French, Italian or Greek (you can try some Spanish and Russian, too).

Joined Nord Pool: 2016